

Amendments to the Claims:

1-12. (Canceled)

13. (New) A method for the continuous synthesis of a monoalkylhydrazine of formula



in which R is selected from the group consisting of C₂-C₆ alkenyl radical, C₂-C₆ alkynyl radical, C₁-C₅ linear alkyl radical containing at least one imine function (-C=N-), and linear or branched C₁-C₆ alkyl radical carrying at least one functional group selected from the group consisting of OH, C₁-C₆ alkoxy, C=NH, C≡N, phenoxy, COOH, COO-(C₁-C₆ alkyl), phenyl or NR₃R₄, with R₃ and R₄ each representing independently a C₁-C₆ alkyl radical or forming a C₂-C₆ ring, wherein the method comprises the following successive steps:

(a) synthesizing the monoalkylhydrazine of formula I in a suitable reactor while causing to react in an alkaline medium and at a temperature in the range between 25 and 45°C a monochloramine with an anhydrous amine of formula



R having the same significance as for formula I; then

(b) demixing the solution obtained following step a in an organic phase and an aqueous phase by the addition of anhydrous sodium hydroxide under cooling so that the temperature of the demixing medium does not exceed the boiling points of the compounds; and

(c) isolating from the organic phase thus obtained the monoalkylhydrazine of formula I.

14. (New) The method according to claim 13, wherein, in step (a), the formula II anhydrous amine / monochloramine molar ratio is in the range between 18 and 30.

15. (New) The method according to claim 13, wherein the reactor used in step (a) is a stirred tubular reactor.

16. (New) The method according to claim 13, wherein before step (a) the monochloramine is alkalized in a mixer by the addition of a solution of sodium hydroxide in such a way that the weight concentration of sodium hydroxide is in the range between 2% and 6%.

17. (New) The method according to claim 16, wherein the mixer is maintained at a temperature in the range between -10 and 5°C.

18. (New) The method according to claim 13, wherein the quantity of the anhydrous sodium hydroxide added during step (b) is such that the weight concentration of sodium hydroxide is in the range between 10% and 35%.

19. (New) The method according to claim 13, wherein step (c) comprises:
(i) isolating the unreacted anhydrous amine of formula II and a concentrated solution of the monoalkylhydrazine of formula I by distillation of the organic phase obtained following step b.

20. (New) The method according to claim 19, wherein step (c) further comprises following step (i), a step (ii) of purifying said concentrated solution of the monoalkylhydrazine of formula I.

21. (New) The method according to claim 19, wherein said unreacted anhydrous amine of formula II recovered following step (a) is reinjected into the reactor of step (a).

22. (New) The method according to claim 20, wherein the concentrated monoalkylhydrazine solution of formula I is purified by distillation.

23. (New) The method according to claim 22, wherein the distillation is preceded by a step of demixing into an organic phase and an aqueous phase by the addition

of anhydrous sodium hydroxide in such a way that the weight concentration of sodium hydroxide is in the range between 30% and 50%.

24. (New) The method according to claim 13, wherein the monochloramine is prepared according to a method comprised of the following successive steps:

α) preparing an aqueous sodium hypochlorite solution having a chlorometric degree in the range between 36° and 100°; and

β) reacting a solution of ammonium hydroxide and of ammonium chloride with the aqueous sodium hypochlorite solution obtained following step (α), in a slightly alkaline medium, at a temperature in the range between -15 and -7°C, in order to form the monochloramine.

25. (New) The method according to claim 24, wherein said aqueous sodium hypochlorite solution is prepared by the dilution of a hypochlorite solution having a chlorometric degree in the range between 100° and 120°.

26. (New) The method according to claim 24, wherein the molar ratio of the ammonium hydroxide and ammonium chloride solution to the aqueous sodium hypochlorite solution is between 2.5 and 3.

27. (New) The method according to claim 26, wherein the molar ratio of the ammonium chloride to the ammonium hydroxide is between 0.1 and 1.75.

28. (New) The method according to claim 26, wherein the molar ratio of the ammonium chloride to the ammonium hydroxide is approximately 0.65.